

06-28-00

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Applicant #1, Name: Chen-Fa Hsieh

Applicant #2, Name: _____

Title: Decorative Alert System

☒ Specification, Claims, and Abstract: Nr. Of Sheets 09

☒ Declaration: Date Signed: 05/24/2000

☒ Drawing(s): Nr. Of Sheets Enc.: (In Triplicate): Formal: 05 Informal: _____

☒ Small Entity Declaration Of Inventor(s) ☐ SED of Non-Inventor / Assignee / Licensee

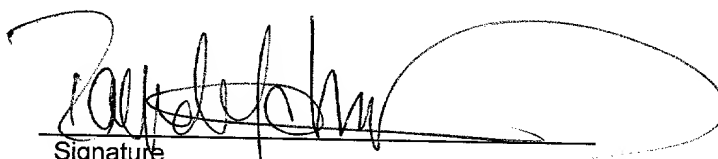
☒ Priority Claim: Application No.: 88218182; Filing Date: 10/26/1999; Country: Taiwan, R.O.C..

☒ Check for \$ 345.00 for:

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Applicant or Patentee: _____ Attorney's Docket No.: **USP1108T-YCE**
Serial or Patent No.: _____
Filed or Issued: _____
For: _____

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR 1.9 (f) and 1.27 (b)) – INDEPENDENT INVENTOR**

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9 (c) for purposes of paying reduced fees under section 41 (a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled:

Decorative Alert System described in:

- ☒ the specification filed herewith
☐ application serial no. _____, filed _____
☐ patent no. _____, issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9 (c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9 (d) or a non profit organization under 37 CFR 1.9 (e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern, or organization
☐ person, concern or organizations listed below*

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FULL NAME _____
ADDRESS _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

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I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28 (b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statements is directed.

Chen-Fa Hsieh
NAME OF INVENTOR NAME OF INVENTOR NAME OF INVENTOR

Chen-Fa Hsieh
Signature of Inventor Signature of Inventor Signature of Inventor

24-5-2000
Date Date Date

Title

Decorative Alert System

Background of the Present Invention

Field of Invention

5 The present invention relates to alert system, and more particularly to a decorative alert system adapted for illuminating sparkling lights when a centrifugal force is applied on the decorative alert system in order to provide an alert signal and an ornamental effect as well.

Description of Related Arts

10 Since bicycle, motorcycle, and automobile are the major ground transportations that most people drive everyday, the safety of driving is mostly concerned by the drivers. So, most drivers like to install some illuminating device for not only decorating their vehicles but also providing an alert signal to other drivers. For example, bikers may install a decorative reflector on the wheels of their bicycles in such a manner the light
15 from other vehicles such as the head light in the surrounding will reflect on the reflector in order to signify the motion of the bicycle for providing an alert signal to other drivers. However, the light reflected from the reflector has a short wavelength, especially during dusk that the light becomes dull, the reflected light is not bright enough for indicating the alert signal, so as the bad ornamental effect.

20 Other improved illuminating device, such as a globe illuminator which can be automatically illuminated at dark, is commonly used on the wheels of the bicycle such that when riding the bicycle, the lightened globe illuminator will provide an alert signal to other drivers at the surrounding. However, after a period of time, the globe illuminator may merely diminish its light intensity, so as to decrease the efficiency of the alert signal.
25 So, the driver must buy a new globe illuminator to replace the old one in order to accomplish the alerting purpose. Thus, the globe illuminator can hardly provide an

ornamental effect for the vehicle since the globe illuminator is being lightened at all time instead of having a sparkling light which can put ornaments on the vehicle.

Summary of the Present Invention

5 A main object of the present invention is to provide a decorative alert system which comprises an alerting circuit arrangement disposed in a casing wherein the circuit arrangement, comprises a central process circuit and a sparkling control circuit, is electrically connected with a centrifugal sensor for controlling the alerting circuit arrangement by switching on and off of a power source. When a centrifugal force is
10 applied on the alerting circuit arrangement, the alerting circuit arrangement is electrically connected with the power source, so as to electrically connect with the central process circuit and the sparkling control circuit. So, a plurality of illuminators controlled by the sparkling control circuit are lightened up for illuminating sparkling lights to signify as an alert signal. Thus, the power source of the alerting circuit arrangement is serially
15 connected with a photo cell unit for switching the alerting circuit arrangement on and off respective to the environmental brightness wherein when the surrounding turns dark, the photo cell unit detects the reducing of brightness and switches on the alerting circuit arrangement in order to generate the sparkling lights. So, the decorative alert system of the present invention is capable of installing into an existing vehicle wherein the casing is
20 adapted for mounting on the spoke of the wheel of the vehicle in such a manner the sparkling lights on the rotating wheel of the vehicle provide an alert signal to the surrounding and put ornamental effect on the vehicle.

Brief Description of the Drawings

Fig. 1 is a circuit diagram of a decorative alert system according to a first preferred embodiment of the present invention.

Fig. 2 is a block diagram of a central process circuit of the decorative alert system according to the above first preferred embodiment of the present invention.

Fig. 3 is block diagram of a sparkling control circuit of the decorative alert system according to the above first preferred embodiment of the present invention.

Fig. 4 is an electric diagram of a sparkling period of the decorative alert system according to the above first preferred embodiment of the present invention.

Fig. 5 is a perspective view of a centrifugal sensor of the decorative alert system according to the above first preferred embodiment of the present invention.

Fig. 6 is an exploded perspective view of the decorative alert system according to the above first preferred embodiment of the present invention, illustrating the decorative alert system adapted to be installed on a bicycle.

Fig. 7 is a perspective view of the decorative alert system installed into an existing bicycle according to the above first preferred embodiment of the present invention.

Fig. 8 is an exploded perspective view of the decorative alert system according to a second preferred embodiment of the present invention, illustrating the decorative alert system adapted to be installed on a motorcycle.

Fig. 9 is a perspective view of the decorative alert system installed into an existing motorcycle according to the above second preferred embodiment of the present invention.

Detailed Description of the Preferred Embodiment

Referring to Figs. 1 to 7 of the drawings, a decorative alert system according to a first preferred embodiment of the present invention is illustrated. The decorative alert system comprises an alerting circuit arrangement 1 disposed in a casing 2, wherein the alerting circuit arrangement 1 comprises a central process circuit 11 and a sparkling control circuit 12. The alerting circuit arrangement 1 is electrically connected with a centrifugal sensor 13 for controlling the alerting circuit arrangement 1 by switching on and off of a power source 14. When a centrifugal force is applied on the alerting circuit arrangement 1, the alerting circuit arrangement 1 is electrically connected with the power source 14, so as to electrically connect with the central process circuit 11 and the sparkling control circuit 12. So, a plurality of illuminators L1, L2, L3, L4, and L5 controlled by the sparkling control circuit 12 are lightened up for illuminating sparkling lights to signify as an alert signal as well as for decoration. Thus, the power source 14 of the alerting circuit arrangement 1 is serially connected with a photo cell unit CDS for switching the alerting circuit arrangement 1 on and off respective to the environmental brightness wherein when the surrounding turns dark, the photo cell unit CDS detects the reducing of brightness and switches on the alerting circuit arrangement 1 in order to generate the sparkling lights for signifying as an alert signal as well as for decoration. Accordingly, the decorative alert system 1 of the present invention is capable of installing into an existing vehicle such as bicycle or motorcycle wherein the casing 2 is adapted for mounting on the spoke 31 of the wheel 3 of the bicycle or a valve 41 of a tire 4 of the motorcycle, as shown in Figs. 8 and 9, in such a manner the sparkling lights on the rotating wheel of the vehicle provide an alert signal to the surrounding and put ornamental effect on the vehicle.

Referring to Figs. 1, 2, and 3 of the drawings, the central process circuit 11 comprises a logic controller 111, a vibrator 112, and a calculator 113 wherein the logic controller 111, the vibrator 112, and the calculator 113 are electrically connected together as a serial connection. When the logic controller 111 receives a high position signal LED, the logic controller 111 will drive an illuminating signal generator 114 and a frequency generator 115 for respectively outputting signals to the sparkling control circuit 12. Then, the sparkling control circuit 12 is received the signal from the illuminating signal generator 114 or the signal from the frequency generator 115, the illuminators L1 to L5 will illuminate sparkling light to provide the alert signal and the

ornamental effect or the frequency generator 115 will generate a "woo" sound respectively.

As shown in Fig. 4, the alerting circuit arrangement 1 is capable of randomly driving specific illuminators, for example L1, L2, L3, to illuminate the sparkling lights when the alerting circuit arrangement 1 is received the high position signal LEH at the first time. At the second time when the alerting circuit arrangement 1 is received the high position signal LEH, the alerting circuit arrangement 1 may drive all the illuminator L1 to L5 to illuminate the sparkling lights. In other words, various colors can be illuminated by the illuminators L1 to L5 and the pattern of sparkling lights is randomly selected from the alerting circuit arrangement 1 for providing the alert signal and the ornamental effect. Accordingly, the illuminators L1 to L5, preferably, are LEDs or other illuminating device.

As shown in Fig. 5, the centrifugal sensor 13 comprises a conductive plate 131 and a resilient element 132 having a connector 132a mounted at a top end thereof, wherein the power source 14 is electrically connected to the conductive plate 131 and the resilient element 132 respectively in such an open circuit manner the connector 132a is normally disengage with the conductive plate 131. When the centrifugal sensor 13 detects a centrifugal force applied thereon, the centrifugal force will drive the connector 132a of the resilient 132 move toward the conductive plate 131 to connect therewith in such a manner the centrifugal sensor 13 is in a closed circuit manner for switching on the alerting circuit arrangement 1.

Referring to Figs. 6 and 7, the casing 2 adapted for mounting on a bicycle comprises a housing 21 having a transparent window 211 provided on an outer surface thereof wherein the alerting circuit arrangement 1 is disposed in the housing 21 such that the sparkling lights generated by the illuminators L1 to L2 adapted to pass through the transparent window 211 to outside, a pair of holding planes 22 extended from two sides of the housing 21 respectively wherein a mounting groove 221 is formed on each holding plane 22, and a pair of mounting planes 23 detachably mounted on the respective holding planes 22 for locking up the casing 2 on the spoke 31 of the wheel 3 of the bicycle. In other words, the casing 2 is adapted to mount on the spoke 31 of the wheel 3 of the bicycle wherein the spoke 31 is disposed in the mounting groove 22 and securely sandwiched between the holding plane 22 and the mounting plane 23 in such a manner

the wheel 3 of the bicycle is arranged to drive the casing 2 to rotate to illuminate sparkling lights.

As shown in Figs. 8 and 9, the decorative alert system according to a second preferred embodiment of the present invention is illustrated, wherein the decorative alert system is capable of installing on the motorcycle. The casing 2a merely comprises a housing 21a having a transparent window 211a provided on an outer surface thereof wherein the alerting circuit arrangement 1 is disposed in the housing 21a such that the sparkling lights generated by the illuminators L1 to L2 adapted to pass through the transparent window 211a to outside, and a mounting cap 24 having an inner threaded portion mounted on a bottom of the housing 21a for screwing with an outer threaded portion 411 of the valve 41 of the tire 4 of the motorcycle, so as to securely mount the casing 2a on the motorcycle and drive the alerting circuit arrangement 1 to rotate to illuminate sparkling lights.

Accordingly, the alerting circuit arrangement 1 can be automatically switched on and off by the centrifugal sensor 13 or the photo cell unit CDS in such a manner the present invention does not need to switch on manually. When riding a bicycle or driving a motorcycle or a vehicle at a dull place or at night, the alerting circuit arrangement 1 will be automatically switched on wherein the illuminators L1 to L5 will continuously generate sparkling lights for signifying an alert signal to other people at the surrounding. So, the present invention is a safety apparatus for driving especially at night and the installation is simple and easy so that the user is able to install the decorative alert system by himself or herself.

While the foregoing description and diagram describe the preferred embodiments of the present invention, it should be appreciated that certain obvious modifications, variations, and substitutions may be made without departing from the spirit and scope of the present invention.

What is Claimed is:

1. A decorative alert system comprises an alerting circuit arrangement disposed in a casing wherein said circuit arrangement comprises a central process circuit and a sparkling control circuit, said central process circuit comprising a logic controller serially connected with a vibrator and a calculator wherein said logic controller is arranged to receive a signal and drive an illuminating signal generator which outputs a signal to said sparkling controller to switch on as least two illuminators for illuminating sparking lights, thus, a power source of said alerting circuit arrangement serially connected with a centrifugal sensor wherein said alerting circuit arrangement is normally in an open circuit state, and wherein when a centrifugal force is applied on the alerting circuit arrangement, said alerting circuit arrangement is in a closed circuit state, so as to drive said illuminators to illuminate said sparking lights for providing an alert signal to the surrounding and an ornamental effect.

2. A decorative alert system, as recited in claim 1, wherein said alerting circuit arrangement is serially connected with a photo cell unit which normally is in an open circuit state, and wherein when said photo cell unit detects the reducing of brightness, said alerting circuit arrangement is in a closed circuit state in order to electrically connect with said power source.

3. A decorative alert system, as recited in claim 1, wherein said centrifugal sensor comprises a conductive plate and a resilient element having a connector mounted at a top end thereof, wherein said power source is electrically connected to said conductive plate and said resilient element respectively in such an open circuit manner said connector is normally disconnected with said conductive plate, when said centrifugal sensor detects a centrifugal force applied thereon, said centrifugal force drives said connector of said resilient move toward said conductive plate to connect therewith in such a manner said centrifugal sensor is in a closed circuit manner for switching on said alerting circuit arrangement.

4. A decorative alert system, as recited in claim 1, wherein said casing comprises a housing having a transparent window provided on an outer surface thereof wherein said alerting circuit arrangement is arranged to dispose in said housing such that said sparking lights generated by said illuminators adapted to pass through said

transparent window to outside, a pair of holding planes extended from two sides of said housing respectively wherein a mounting groove is formed on each said holding plane, and a pair of mounting planes detachably mounted on said respective holding planes for locking up said casing on said spoke of a wheel of a bicycle, in other words, said casing
5 adapted to mount on said spoke of said wheel of said bicycle wherein said spoke is disposed in said mounting groove and securely sandwiched between said holding plane and said mounting plane in such a manner said wheel of said bicycle is arranged to drive said casing to rotate to illuminate sparkling lights.

5. A decorative alert system, as recited in claim 1, wherein said casing
10 comprises a housing having a transparent window provided on an outer surface thereof wherein said alerting circuit arrangement is arranged to dispose in said housing such that said sparkling lights generated by said illuminators adapted to pass through said transparent window to outside, and a mounting cap having an inner threaded portion mounted on a bottom of said housing for screwing with an outer threaded portion of said
15 valve of said tire of said motorcycle, so as to securely mount said casing on said motorcycle and drive said alerting circuit arrangement to rotate to illuminate sparkling lights.

Decorative Alert System

Abstract of the Disclosure

A decorative alert system includes an alerting circuit arrangement disposed in a casing, which includes a central process circuit and a sparkling control circuit, wherein
5 the alerting circuit arrangement electrically connected with a centrifugal sensor for controlling the alerting circuit arrangement by switching on and off of a power source. When a centrifugal force is applied on the alerting circuit arrangement, the alerting circuit arrangement is electrically connected with the power source, so as to electrically connect with the central process circuit and the sparkling control circuit. So, a plurality of
10 illuminators controlled by the sparkling control circuit are lightened up for illuminating sparkling lights to signify as an alert signal. Thus, the power source of the alerting circuit arrangement is serially connected with a photo cell unit for switching the alerting circuit arrangement on and off respective to the environmental brightness wherein when the surrounding turns dark, the photo cell unit detects the reducing of brightness and switches
15 on the alerting circuit arrangement in order to generate the sparkling lights. So, the decorative alert system of the present invention is capable of mounting on the spoke of the wheel of the bicycle or a valve of a tire of a vehicle in such a manner the sparkling lights on the rotating wheel of the vehicle provide an alert signal to the surrounding and put ornamental effect on the vehicle.

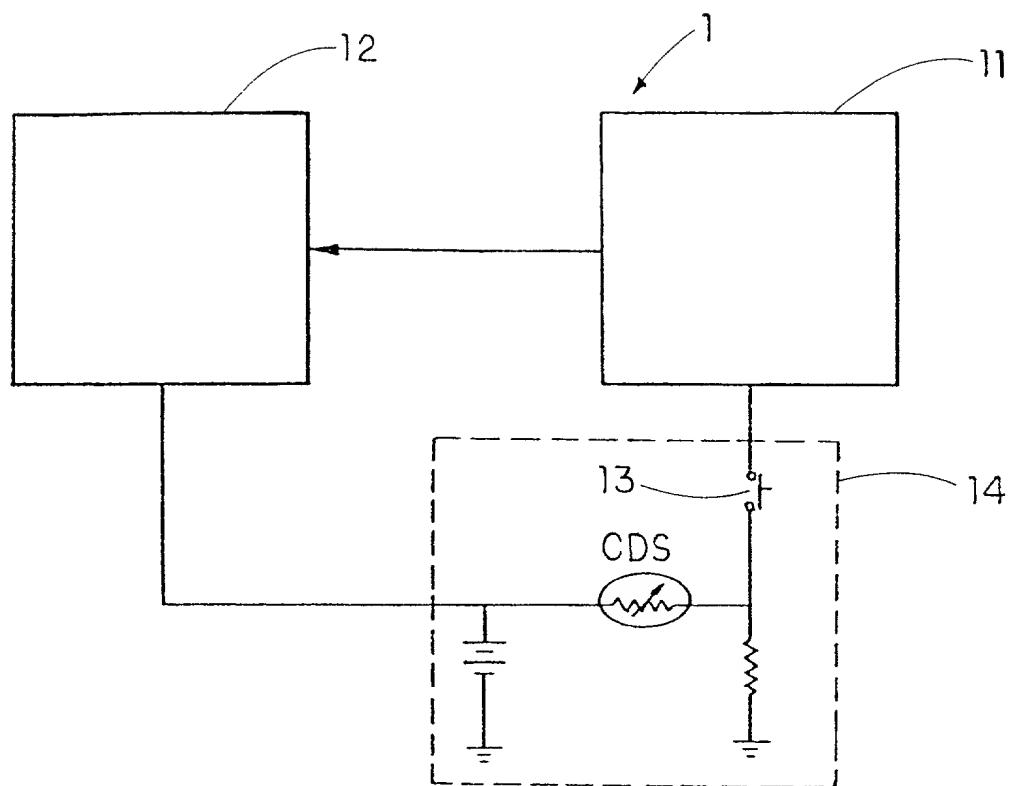


FIG.1

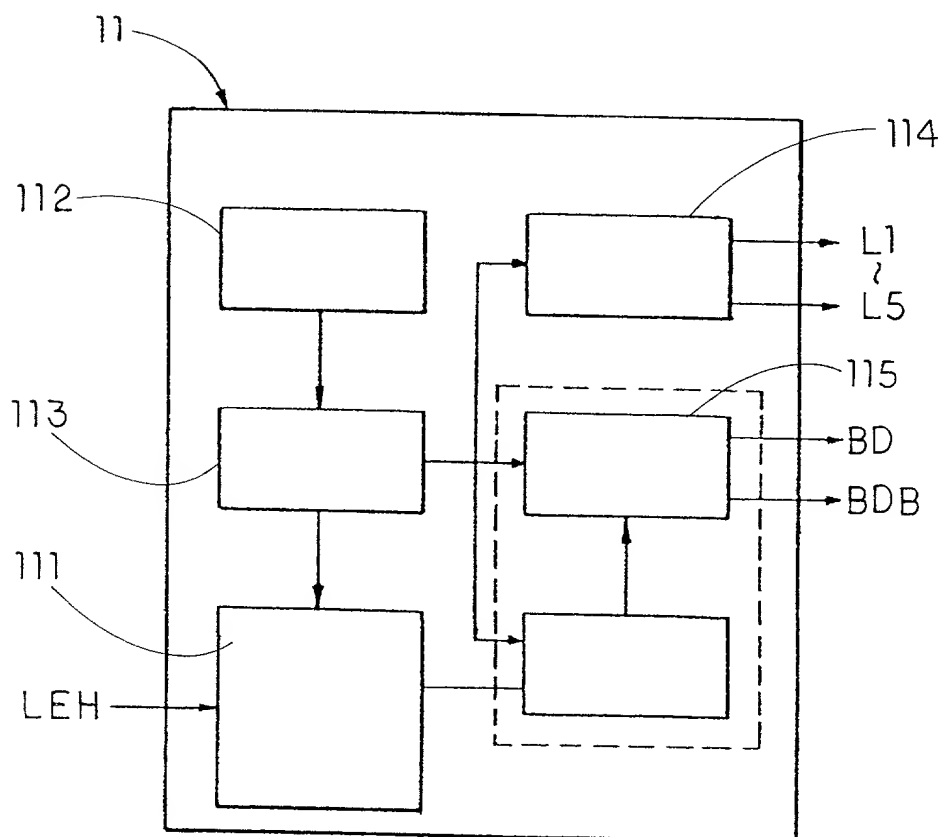


FIG.2

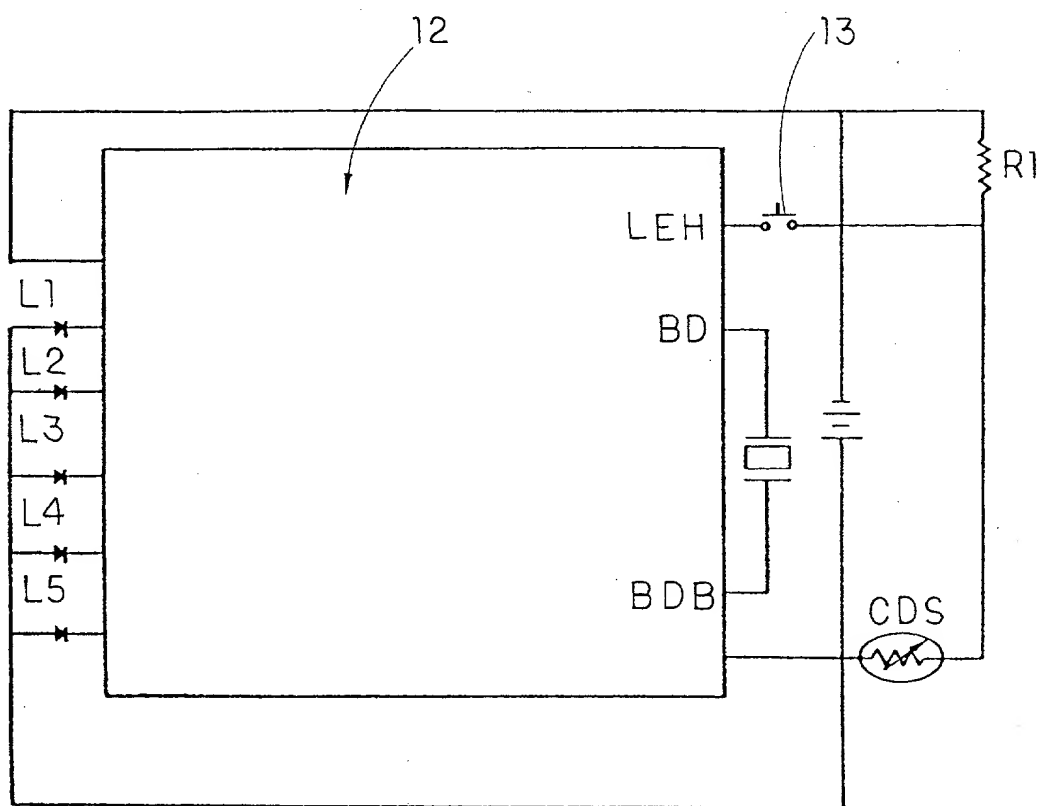


FIG. 3

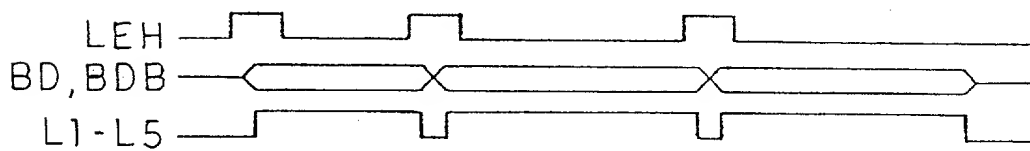


FIG. 4

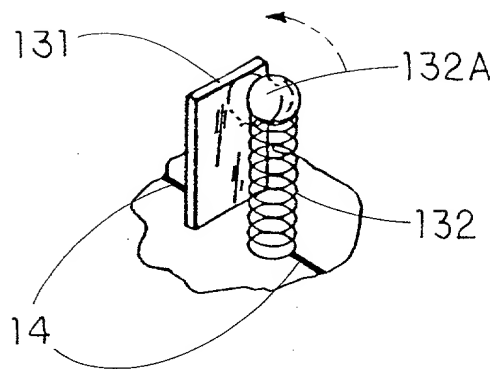


FIG. 5

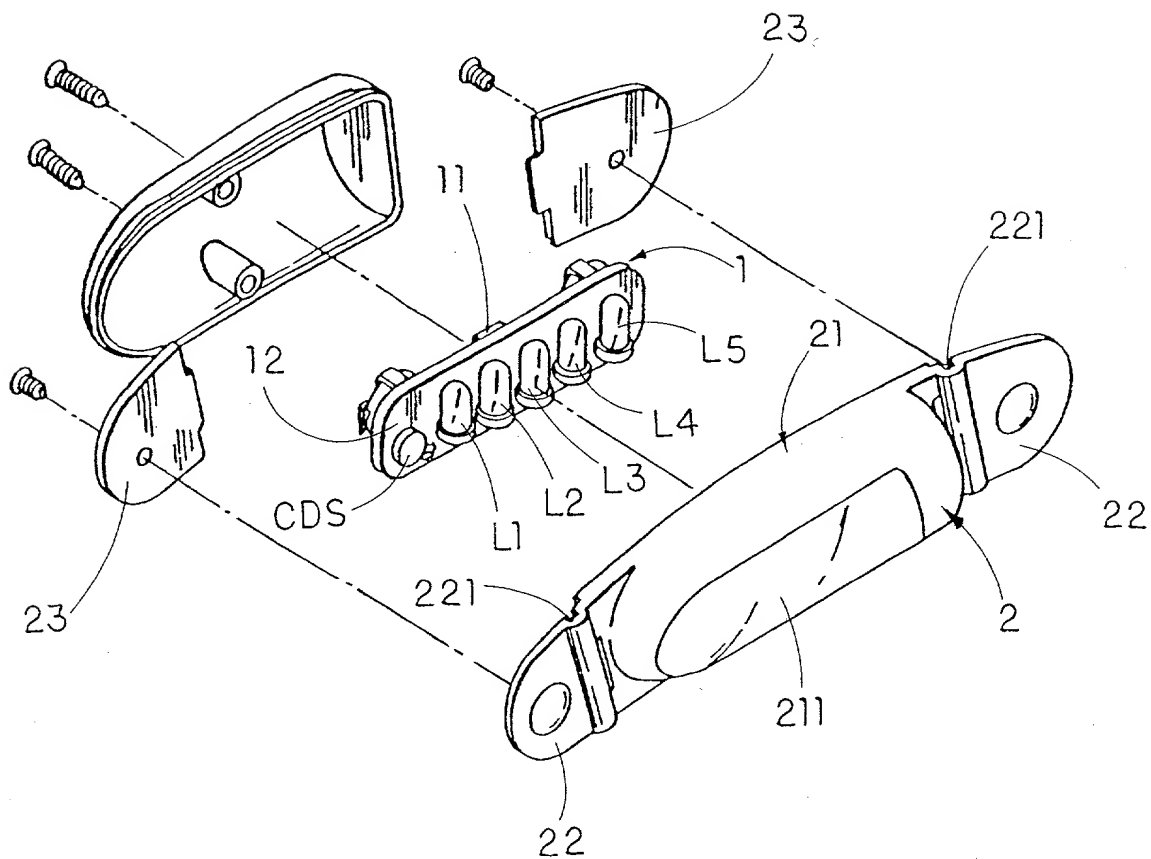


FIG. 6

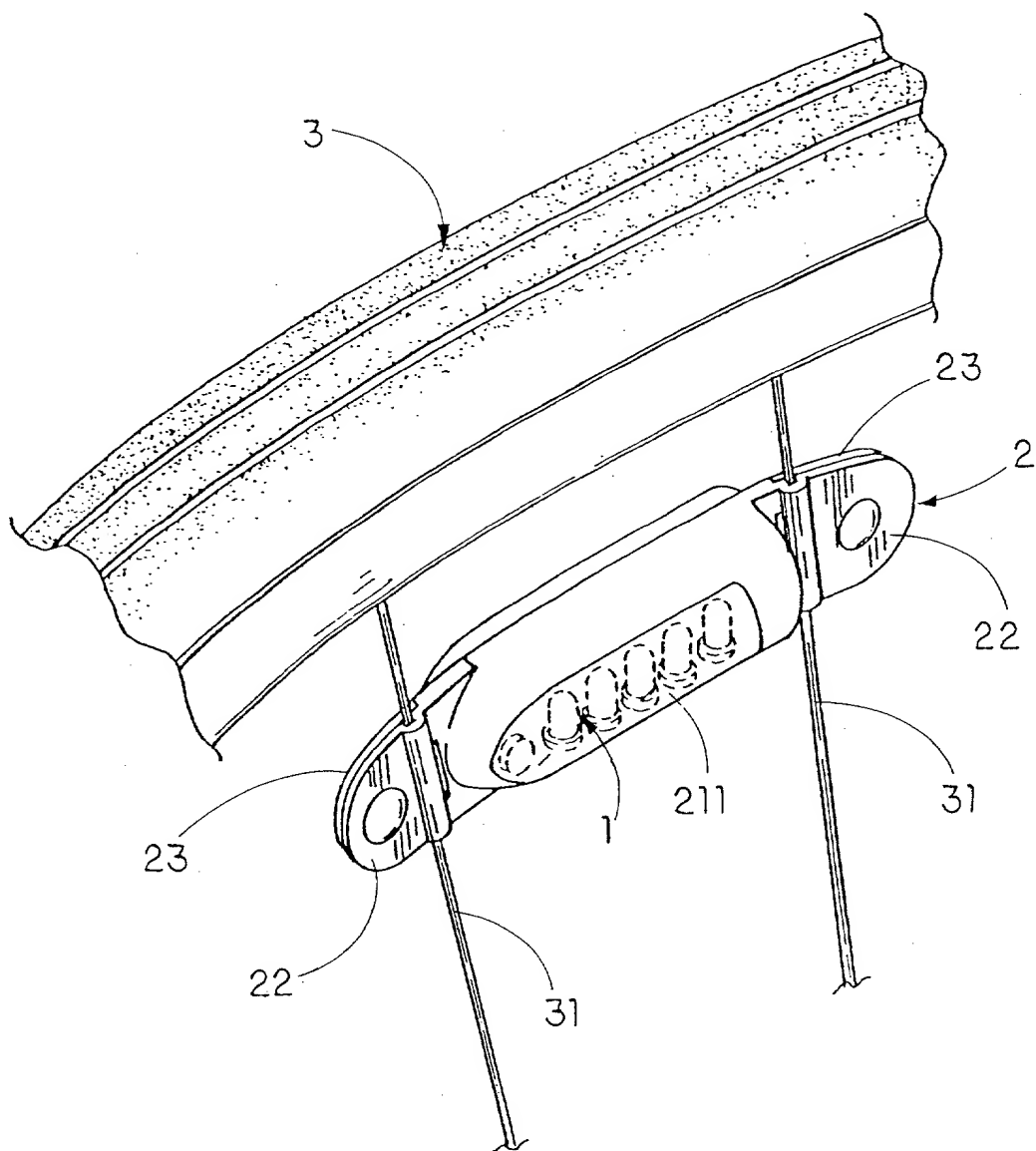


FIG. 7

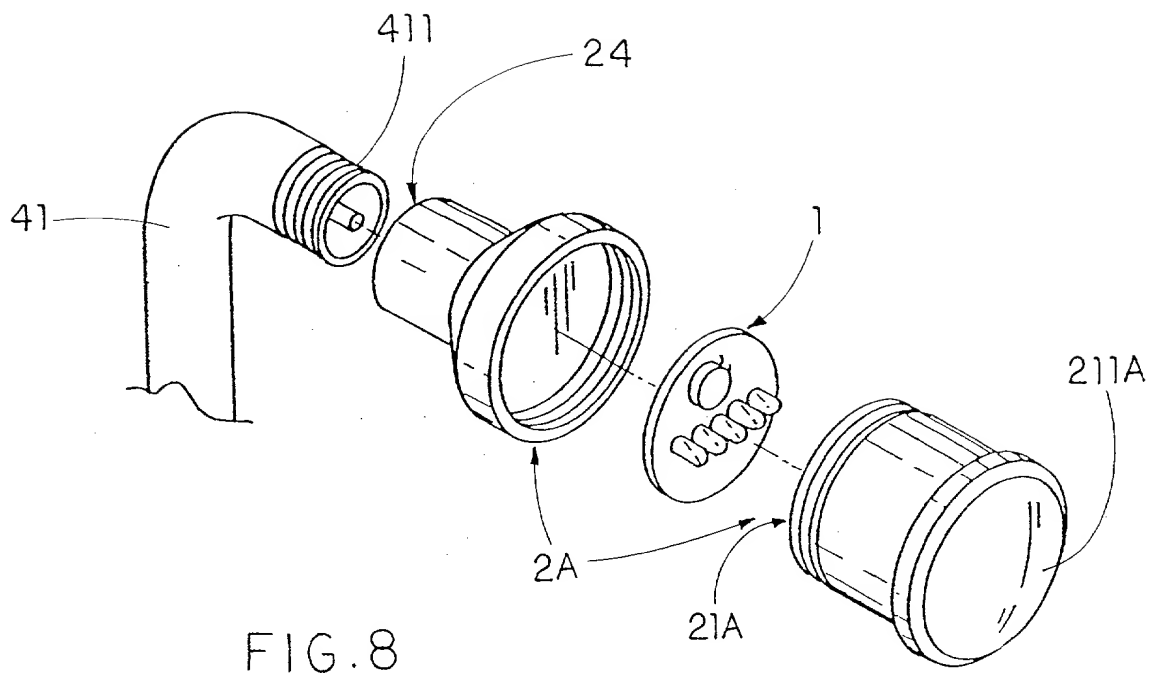


FIG. 8

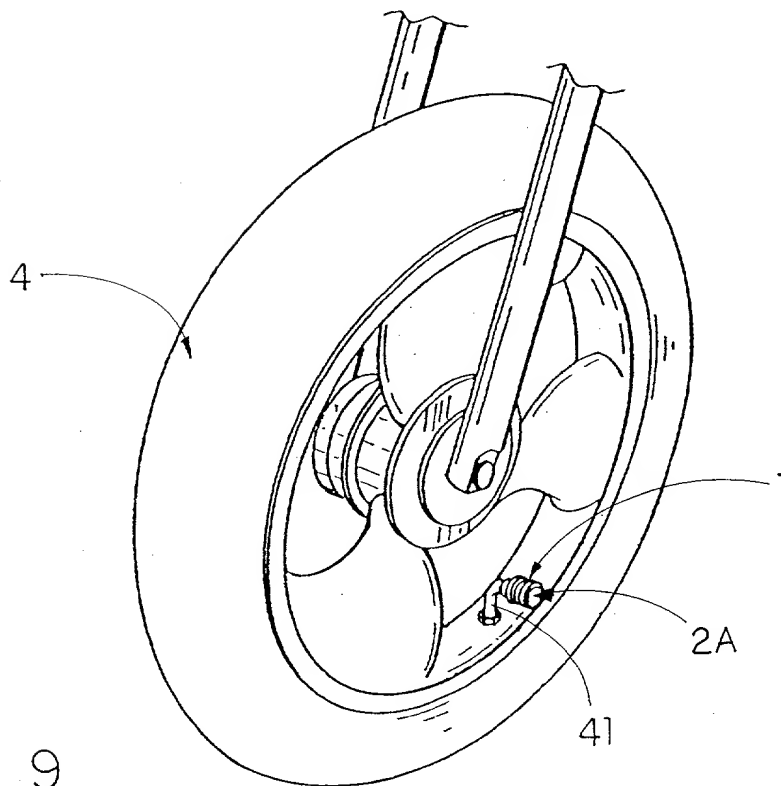


FIG. 9

DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Decorative Alert System

the specification of which is attached hereto unless the following box is checked:

☐ was filed on _____ as United States Application Number or PCT International Application Number _____ and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 USC 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

| | | | |
|------------------------------|----------------------|------------------------|---|
| Prior Foreign Application(s) | | | Priority Claimed |
| <u>88218182</u> | <u>Taiwan R.O.C.</u> | <u>26/10/1999</u> | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| (Number) | (Country) | (Day/Month/Year Filed) | |
| _____ | _____ | _____ | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| (Number) | (Country) | (Day/Month/Year Filed) | |
| _____ | _____ | _____ | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| (Number) | (Country) | (Day/Month/Year Filed) | |

I hereby claimed the benefit under 35 USC 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 USC 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

| | | |
|----------------------|---------------|---------------------------------------|
| _____ | _____ | _____ |
| (Application Number) | (Filing Date) | (Status-patented, pending, abandoned) |
| _____ | _____ | _____ |
| (Application Number) | (Filing Date) | (Status-patented, pending, abandoned) |

I hereby appoint the following attorney(s) and/or agent(s), with full powers of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

Raymond Yat Chiu Chan, Reg. No. 37,484

Address all correspondence to: **1050 Oakdale Lane, Arcadia, CA 91006**

Telephone Calls to: **(626) 571-9812**

I hereby declare that all Statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor (given name, family name) Chen-Fa Hsieh

✓ Inventor's signature Chen-Fa Hsieh Date 24-5-2000
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Full name of second joint inventor, if any (given name, family name) _____

Second Inventor's signature _____ Date _____
 Residence _____ Citizenship _____
 Post Office Address _____

☐ Additional inventors are being named on separately numbered sheets attached hereto.